■ ReadRack Project Explanation

1■■ Project Overview

ReadRack is a Command-Line Interface (CLI) application written in Python. It allows users to manage their personal library of books: import, add, search, update, delete, export, and track statistics. Data is stored in JSON and can be exported to CSV.

2■■ Project Structure

The project is organized into folders:
- main.py: Entry point for CLI
- models/: Contains Book and Library classes
- io_files/: Handles CSV import/export
- data/: Stores input (books.csv) and persistent storage (library.json)
- tests/: Unit tests for validation
- README.md: Documentation
- TEST_RESULTS.md: Test outputs

3■■ Key Features

• Import from CSV (detect duplicates/invalid rows)
• List books (default, unread, genre)
• Search by title or author
• Add books interactively
• Update (status, pages, rating, notes)
• Remove/Delete books by ID
• Stats: totals, authors, genres, avg rating
• Export to CSV with filter (unread, completed, reading)
• Auto save to library.json

4■■ How to Run

1. Open terminal in project folder:
cd "C:\Users\npjgowda\OneDrive - Cisco\Desktop\readrack"
2. Run:
python main.py
3. CLI starts with prompt:
ReadRack CLI — type 'help' for commands.

5■■ Example Demo Session

import → list → search title clean → add → update → stats → export data/unread.csv --filter unread → delete → quit

6■■ Documentation (README.md)

README.md explains purpose, features, structure, setup, commands, and example runs.

7■■ Test Cases

Tests written using unittest (in tests/ folder).
Covers: adding, searching, importing, updating, stats.
Run: python -m unittest discover -s tests -v
Results are saved in TEST_RESULTS.md.

8■■ Why This Project is Good

• Uses OOP (Book, Library)
• File I/O with CSV and JSON
• Modular design
• Iterator/filter support
• Tested with unittest
• Documented professionally

■ Final Words

My project, ReadRack, is a Python-based CLI for managing a personal book library. It is feature-rich, tested, and documented. README.md and TEST_RESULTS.md complete the submission.